

On the Digestive Ferments and on the Preparation and Use of Artificially Digested Food. By Wm. Roberts, M.D., F.R.S. (London: Smith, Elder, and Co., 1880.)

THIS little volume contains the three Lumleian Lectures delivered before the College of Physicians, London, for the present year. The subject is treated in a manner worthy of the reputation of the author. He gives a summary of what is known on the subject of digestion as a function common to animals and plants, treats of the general characters and properties of the digestive juices and their ferments, with an account of the action of each on food material. After many trials the author adopts three solutions for the preservation of his solution of animal ferment, full details of the preparation of which are given. The researches of Musculus and O'Sullivan as to the transformation of starch are given, with the very recent researches on the same subject by Brown and Heron. The subject of the digestion of starch is excellently handled, and any dyspeptic reader would do well to consider the facts and reasonings here so well and clearly given. The second lecture chiefly relates to pepsin and the digestion of proteids; digestive proteolysis; the milk-curdling ferment. The third lecture is devoted to the effects of cooking on food, preparation of artificially-digested food, peptonised materials, the clinical experience of the use of peptonised food, and on the use of pancreatic extract as an addition to food shortly before food is taken. These lectures, though at times technical, may be understood by the ordinary reader, who would often derive advantage from a general knowledge of their contents. As long as man must live on food so long will the proper digestion of that food be of extreme importance to him.

The Niger and the Benueh: Travels in Central Africa. By Adolphe Burdo. From the French by Mrs. George Sturge. (London: Bentley, 1880.)

THERE is a good deal that is interesting in M. Burdo's lively story of his voyage up the Niger and Benueh, partly in the company of Bishop Crowther. He gives many details of the various towns and villages he visited on the banks of the two rivers, and of the appearance and habits of the people he met with, all welcome information in a region on which our information is even yet comparatively meagre. M. Burdo's journey was made in 1878.

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]

The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to ensure the appearance even of communications containing interesting and novel facts.]

Smokeless London

I HAVE read the letter of Mr. Scott Moncrieff in NATURE, vol. xxiii. p. 151, with much interest, and am satisfied that his data and conclusions are substantially accurate. This conviction is based on some experience in the commercial distillation of coal.

One difficulty will arise which should at once be foreseen and provided against, or it may be exaggerated into a big bugbear by that class of self-styled "practical" men who oppose to every innovation the inertia of their own self-sufficient stupidity. The semi-coke remaining in the retorts, when only one-third of the volatile constituents of the coal has been run off, will be highly inflammable, and display this property by a great outburst of lurid flame and dense smoke when the retort doors are opened for discharging, and unless the withdrawn charge is immediately quenched there will be a veritable Inferno where it falls. This is merely a matter of practical detail admitting of

easy remedy where there is ability and willingness to grapple with it.

A more serious difficulty is likely to arise in London from the peculiar position of the gas companies. They are suffering from commercial congestion due to a plethora of prosperity, and receiving no stimulation from wholesome competition, they display very low commercial vitality. The public welfare is no business of theirs.

It is otherwise in those towns that are sufficiently advanced in civilisation and have abolished the gas and water joint-stock monopolies. There the public are helping themselves, and control the management of the Corporation gas works by their election of the members of the Corporation. Many of these towns are foggy and smoky enough for the experiment, and in these such a boon as that offered by Mr. Moncrieff will probably be appreciated, and, being appreciated by those most interested, will be at once practically tested. Birmingham, for instance, is likely to try it. I was there a few weeks ago and saw how they have eclipsed our electric lamps on the Embankment by the gas lamps around their town-hall.

If it succeeds in any one of these towns our companies will surely follow, or if not, so much the worse for the companies.

Stonebridge Park, Willesden, W. MATTIEU WILLIAMS

December 17

I HAVE read with great interest Mr. Scott Moncrieff's scheme for "Smokeless London" propounded in your last issue. I would ask however—Is he satisfied that the coke would be smokeless when only 3333 feet of gas per ton has been extracted from the coal?

E. R. F.

London, December 20

Climates of Vancouver Island and Bournemouth

I THINK it very probable that your correspondent Capt. Verney is right about the climate of Vancouver's Island. My only sources of information were maps of isothermals in Keith Johnston's and Phillips' Atlases, which show the mean temperature about the same as that of the south of England, while the winter temperature is shown as being decidedly colder, and it was to this I more especially referred. The mainland of British Columbia is undoubtedly colder than that of Western Europe, but Vancouver's Island itself and the adjacent sea may be really milder; and if so it is another proof of the great power of the returning Japan current.

I shall be very glad of Prof. Haughton's criticisms on my hypothesis; and in the mean time will only say: 1. That unless Bournemouth is never cooled by north and north-east winds, any amelioration of the climate of the Polar regions would certainly benefit it. 2. That as by my hypothesis the entrance of two new gulf-streams into the Arctic Ocean would entirely prevent the formation of ice; the return currents that would undoubtedly be produced would not be cold currents in the sense in which they are now, as they would probably be always considerably above the freezing point.

ALFRED R. WALLACE

Geological Climates

IN relation to the discussion as to the importance to be ascribed to the distribution of certain trees and plants in the determination of geological climates, it may interest Prof. Haughton and Mr. Duncan to know that a specimen of the Australian *Araucaria Cunninghamii* is now growing on one of the slopes of the Marlstone Hills near Belvoir Castle, in North Leicestershire, a position it has occupied for upwards of forty years. It has attained a height of about thirty-five feet. Having survived (without other protection than that afforded by the wooded heights about it) the cold of the winters of 1860 and 1879, its capability to withstand a greater degree of cold than is ever experienced in our southern counties may be with confidence asserted.

Masses of a true and very characteristic bamboo, *Bambusa metaké*, are now growing vigorously and spreading rapidly on the same estate, the long elegant and slender canes and the delicate green foliage of this variety of bamboo not having suffered in the slightest degree from the severe frost of last winter or the early and equally trying severity of this. *Arundinaria falcata*, the bamboo found as high as the snow-line in the Himalayas, has also proved hardy at Belvoir, but it has been displaced as an ornamental plant by *B. metaké*. *Arundo donax*